



KINGS ENGINEERING COLLEGE

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ACCREDITED WITH NAAC, APPROVED BY AICTE & AFFILIATED TO ANNA UNIVERSITY



NATIONAL SCIENCE DAY CELEBRATION 2023

SCIENCE CLUB - “PROJECT HACKATHON EXPO 23”

Name of the Department	STEAM - Science Club
Name of the Event	National Science Day “PROJECT HACKATHON EXPO”
Date and Time of the Event	28/02/2023 – Tuesday, 01.00 PM TO 03.00 PM.
Location	CSE Seminar hall, Kings Engineering College.
Name of the Judge	Dr.Sahaya jusedhass/ HoD- Physics Dr.Ponmanaselvan/ HoD- Maths
Welcome address	Mr.A.Anantharaj, AP – Chemistry
Event Intro	Dr.M.Kumar/ ASP - Chemistry
Best Project award	Dr.T.John Oral Baskar, Principal.
Special Invitees	Mrs.Merilyn Jemimah, Director Mr.Praveen, Academic Dean
Vote of thanks	Dr.S.Ramachandran, Assistant Professor – Physics



Dr. M. Kumar
SCIENCE Club Coordinator

STEAM Club Convener

Principal

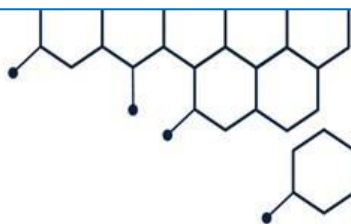
REPORT - SCIENCE PROJECT EXPO -2023

Kings Engineering College conducted a National science day “PROJECT HACKATHON EXPO” in our campus. On behalf of Department of Science and Humanities, Dr. M. Kumar, Associate Professor/Chemistry act as coordinator for Science Day “PROJECT HACKATHON EXPO” 2023. The programme was conducted on 28-02-2023, Tuesday in CSE Seminar Hall, A wing., Ground floor.

In this Expo more than 25 batch student science projects were displayed and explained their ideas from various branches. Each project team consists of 3 to 4 students and they were actively participated and demonstrated a well conceptual and thematic project models with the guidance of faculties in our college. After evaluating the projects explained by the concern students, three best projects have been selected for awards conducted on 15-03-2023.

During this programme our students interacted with the judges to share their knowledge on basic and advance concept of science such as basic laws, principle of working model and applications of science.

EXPO Banner - 23



STEAM - SCIENCE CLUB

28/02/2023 | Tuesday | 01:00 PM | Event

**PROJECT HACKATHON EXPO
2K23**



CHAIRPERSON

Dr. NALINI SELVARAJ, M.COM., Ph.D.

DIRECTOR

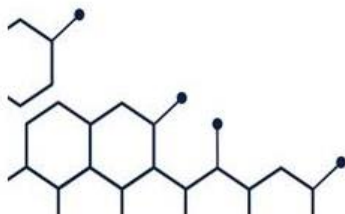
Mr. S. AMIRTHARAJ, B.TECH., MBA (UK)

PRINCIPAL

Dr. T. JOHN ORAL BHASKAR, M.E., Ph.D.

CONVENER

Dr. M. KUMAR, ASP./ CHEM.



STEAM - SCIENCE CLUB – Project Expo

Project Description

SCIENTIFIC DRONE

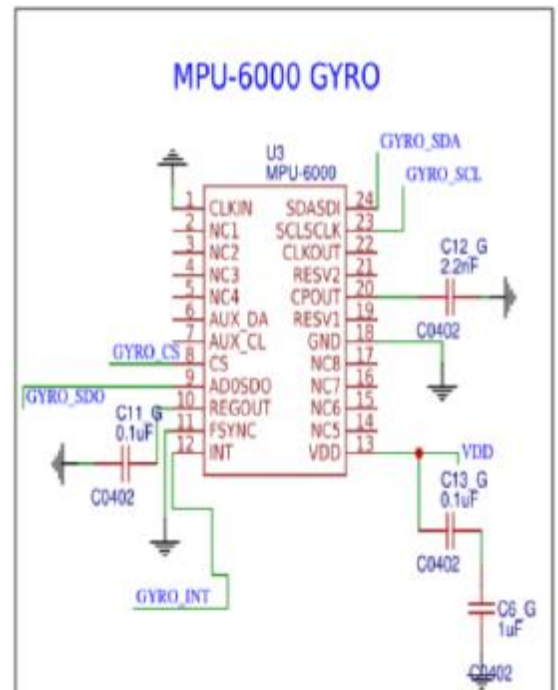
Team Members: 1. Dhanush Kotti R
2. Aadhi Akilesh K
3. Abhishek Joseph N

Gyroscope working

Once the drone is airborne, gyroscopes and sensors relay data to computers that use algorithms to make adjustments to the positioning of the drone. This keeps the drone balanced and hovering consistently and micromanages the varying rotor speeds that drones on in order to turn, roll, or move forward, backward, or vertically. Computer algorithms also assist the drone user in slowing the drone's descent. This is in attempt to avoid the vortex ring state – an event where the drone's propellers descend too quickly and are caught up with irregular air circulation, causing the drone to lose lift and fall. While the drone user can control where and when the drone moves, the computer algorithms are doing a lot of heavy lifting in order to keep the drone stable.

Application

While the acrobatics that drones perform may look like fun and games, developing drones should be able to perform a wide variety of tasks. The United States Military is also interested in making use of this technology. especially when tasked to locate and warn soldiers of improvised explosive devices (IEDs). Drones could also be armed with an array of biological weapons that would help confine armed conflicts solely to those that are targeted. This in turn, would help reduce civilian casualties and structural damage in war, although this is quite a controversial application.



RECHARGEABLE BULB

Team Members: 1. Christina Sharon - I CSEA

2. Mary Angel - I CSEA

The idea of this rechargeable emergency light circuit is truly compact, highly advanced, and may be kept plugged into the mains socket for a permanent automatic operation. The use of a Li-Ion battery makes it infinitely long lasting.

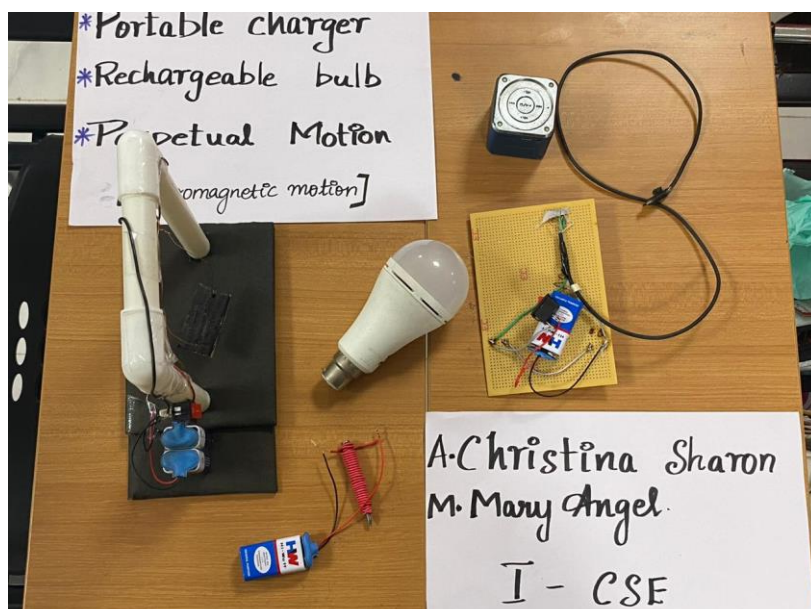
Circuit Description

The circuit operation can be understood through the following points:

- A battery (such as a 12V lead-acid battery or a 3.7V lithium-ion battery) to provide backup power
- A DC-DC converter (also known as a boost converter) to step up the voltage from the battery to the voltage needed to drive the LED bulb
- An inverter circuit to switch the bulb between using main power and battery power
- A switch to manually select between battery power and main power
- A charging circuit to charge the battery when main power is available

The main power would be connected to the input of the inverter circuit and the output of the inverter circuit would be connected to the input of the DC-DC converter. The output of the DC-DC converter would be connected to the LED bulb. The switch would be connected in parallel with the main power input to the inverter circuit. The charging circuit would be connected to the battery and the main power input.

When the main power is available, the inverter circuit would supply the main power to the LED bulb, and the battery would be charged by the charging circuit. When the main power is lost, the switch would be flipped to activate the inverter circuit, and the battery power would be supplied to the LED bulb through the DC-DC converter.



OBSTACLES AVOIDING BOAT

Team Members: Suyra Prakash
 Ravinder
 Fazhil Ahemed
 Gharanipriyan

Another behavior is obstacle avoidance, which **uses sonar proximity sensors**. The obstacle avoidance behavior is activated whenever the sonar indicates a closing object, and results in a movement away from the object, even if it increases the distance from the target position. When your marine operation takes you into uncharted waters, **a forward-looking sonar helps you see what lies ahead under the water**. Alerts based on depth, distance from the vessel and estimated time to impact can be configured to warn of potential collision hazards

DAY AND NIGHT CONCEPT

Team Members:

1. Kisholin J – I AI&DS
2. Rejoice A – I AI&DS

The Earth is one of several planets that orbit the sun, and the moon orbits the Earth. The Earth is essentially a sphere and the sun is a nearby star which is an unimaginably large ball of gas that radiates light and heat as products of nuclear reactions.

The Earth orbits the sun once every 365 days and rotates about its axis once every 24 hours. Day and night are due to the Earth rotating on its axis, not its orbiting around the sun. The term 'one day' is determined by the time the Earth takes to rotate once on its axis and includes both day time and night time.

